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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,725	09/16/2005	Peter Gerard Bourke	01115/0211556-US0	4694
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EXAMINER LITHGOW, THOMAS M				
ART UNIT		PAPER NUMBER		
1797				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/549,725

Applicant(s)

BOURKE, PETER GERARD

Examiner

Thomas M. Lithgow

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-824)
Paper No(s)/Mail Date 9/05, 3/06, 10/06, 4/08, 8/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 4, 6, 8-9, 18-19, 21-24, 26 and 36-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Daman (US 2651413). Daman '413 discloses a flotation cell including a Fig. 6 embodiment (which is modeled on the fig. 1 embodiment) detailing an alternative form of the upper impeller 31. The fig. 6 embodiment has a downward component to the flow it produces [col. 8, lines 64+] hereafter abbreviated as [8, 64+].
3. Claims 1-9, 18-24, 26 and 36-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Ingalls (US 232388). Ingalls '388 discloses a flotation machine (see fig. 8-9, 11 embodiment) which includes an upper down thrust impeller 59 and a radial flow impeller 57 attached to the same shaft for co-rotation thereof.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ingalls '388 as applied to claim 1 above, and further in view of Wasley (US 2573521). Wasley '521 discloses the use of a clamp collar 27 to hold an impeller 26 to a rotary shaft in a flotation cell. To employ this clamp collar for its intended purpose in the Ingalls device to secure an impeller to a rotary shaft would have been obvious to one of ordinary skill in the art at the time of the invention.

6. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art of Ingalls '388 and Wasley '521 as applied to claim 10 above, and further in view of any one of Campbell (US 5607235) or Tobin (US 4478515) or Komarek (US 2600408). The use of clamping halves to secure an agitator to a rotary shaft is well known and illustrated by any one of the above three references. Such a clamp allows the agitator (impeller) to be attached/detached to the rotary shaft without

removing the other agitators along the length of the rotary shaft which is normally the way full hub impellers/agitators are assembled/disassembled. To modify the full hub clamp of Wasley '521 to be clamp halves as taught by the 3 secondary references would have been obvious to one of ordinary skill in the art.

7. Claims 15-17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ingalls '388 as applied to claims 1 and 24 respectively above, and further in view of either one of Potts (US 2673724) or Anderson (US 2973095). The use of rubber coatings on the impeller of a flotation device is well known and taught by either one of Potts '724 [4, 16+] or Anderson '095 [3, 30+]. Further, either reference discloses the well known use of a blower to supplement the flow of air to a flotation device- Potts '724 see [3, 61+] and in Anderson [3, 2+]. The thickness of the resilient protective layer is within the skill of the art, noting that more thickness will result in longer run times until the coating is worn off. To modify Ingalls '388 with these well known features for their intended benefits would have been obvious to one of ordinary skill in the art.

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ingalls '388 as applied to claim 24 above, and further in view of Booth

(US 2182442-cited by applicant). The use of a stator (see blades 34-36) in the lower portion of a flotation cell to mitigate the rotation effects of swirling pulp flow in a flotation cell and to channel the pulp flow upwardly is taught by Booth '442. To employ a stator in Ingalls '388 would similarly add to the anti-swirling effects of baffles 16 supplied for this very purpose. To employ such a stator for its intended purpose in the Ingalls '388 flotation device would have been obvious to one of ordinary skill in the art.

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daman '413 as applied to claim 24 above, and further in view of Daman (US 2628827). The use of a stator (vanes 21) to reduce the swirl effect from a rotary impeller in a flotation machine is disclosed by Daman '827. To add such a feature to Daman '413 would have been obvious to one of ordinary skill in the art.

10. Claims 30-32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Daman '413 or Ingalls '388 as applied to claim 24 above, and further in view of either one of Booth '442 or Bourke (US 5909022). The use of a conical froth crowder to urge froth toward the peripheral edge overflow is disclosed by either one of Booth '442 or Bourke

'022. To use such a feature on either of Daman '413 or Ingalls '388 would have been obvious to one of ordinary skill in the art.

11. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 34 above, and further in view of WO 01/43881. The use of a tube extending through a froth crowder to add a liquid is taught by WO '881 (see fig. 3). To employ this arrangement for its intended purpose would have been obvious to one of ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M. Lithgow whose telephone number is 571-272-1162. The examiner can normally be reached on Mon. -Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas M. Lithgow/

Primary Examiner, Art Unit 1797

Thomas M. Lithgow
Primary Examiner
Art Unit 1797

TML